

IN THE CLAIMS

Cancel the original claims and insert the following claims in their stead:

Rule 12b 27 ~~1~~. A mold for optimizing molding time to form a molded article by cooling and solidifying a molten molding material, said mold comprising:

(1) at least one mold die coupled to a temperature controller operable to maintain a molding temperature of the mold die during at least part of a molding cycle;

(2) a stamper disposed in the mold, the stamper defining a portion of a mold cavity of which at least a part tends to cool to a temperature below a temperature of an other portion of the mold cavity; and,

(3) a further heating control coupled to the stamper so as to increase the temperature of the part that tends to cool below the temperature of said other portion of the mold cavity;

wherein the further heating control maintains the temperature of the part the tends to cool below said temperature, above a molding temperature of the molding material during a portion of the molding cycle, during which the temperature controller maintains the mold die at a temperature that would otherwise permit the molding material to solidify at said part.

A2 28 ²⁷ 2. The mold of claim ~~1~~²⁷, wherein the further heating control is placed to correspond with one of changes in thickness of the cavity and edges of the cavity.

29 ²⁷ 3. The mold of claim ~~1~~²⁷, further comprising at least one insulator disposed between the stamper and the mold die for affecting a temperature of the cavity adjacent to said insulator during at least a portion of the molding cycle.

30 ²⁷ 4. The mold of claim ~~1~~²⁷, wherein the molded article is an optical disc.

31 3. The mold of claim 2²⁸, wherein said cavity has differing thicknesses at different locations, causing different heat flow from the cavity surfaces to the mold dies at the different locations and wherein the further heating control compensates for temperature conditions for at least certain of the different locations.

32 6. The mold of claim 2²⁸, wherein the cavity defines a thin disc and the further heating control applies heat to a peripheral edge of the cavity.

33 7. A mold for an optical disc, comprising:
a mold cavity defining cavity surfaces for receiving a molten molding material to be cooled and solidified to form the optical disc;
a stamper forming at least a part of the cavity surfaces;
a stamper heating means is located in the mold die substantially adjacent to a periphery of the optical disc.

34 8. A method of optimizing molding time to form a molded article comprising the steps of:

(a) providing a mold containing a plurality of mold portions forming a mold cavity having cavity surfaces in a shape of said molded article, said mold portions comprising: at least one die having a stamper for imparting the shape and a thermal control means for determining a temperature at least in part of the mold cavity;

(b) applying substantially constant temperature control stimuli to said mold die via said thermal control means, such that the cavity surfaces of the mold cavity are brought to predetermined temperatures that are initially below a mold filling temperature required to produce the molded article and upon contact with molten material introduced into the mold cavity at a temperature greater than the mold filling temperature, increase a temperature of the cavity surfaces at least to the mold filling temperature required to produce the molded article;